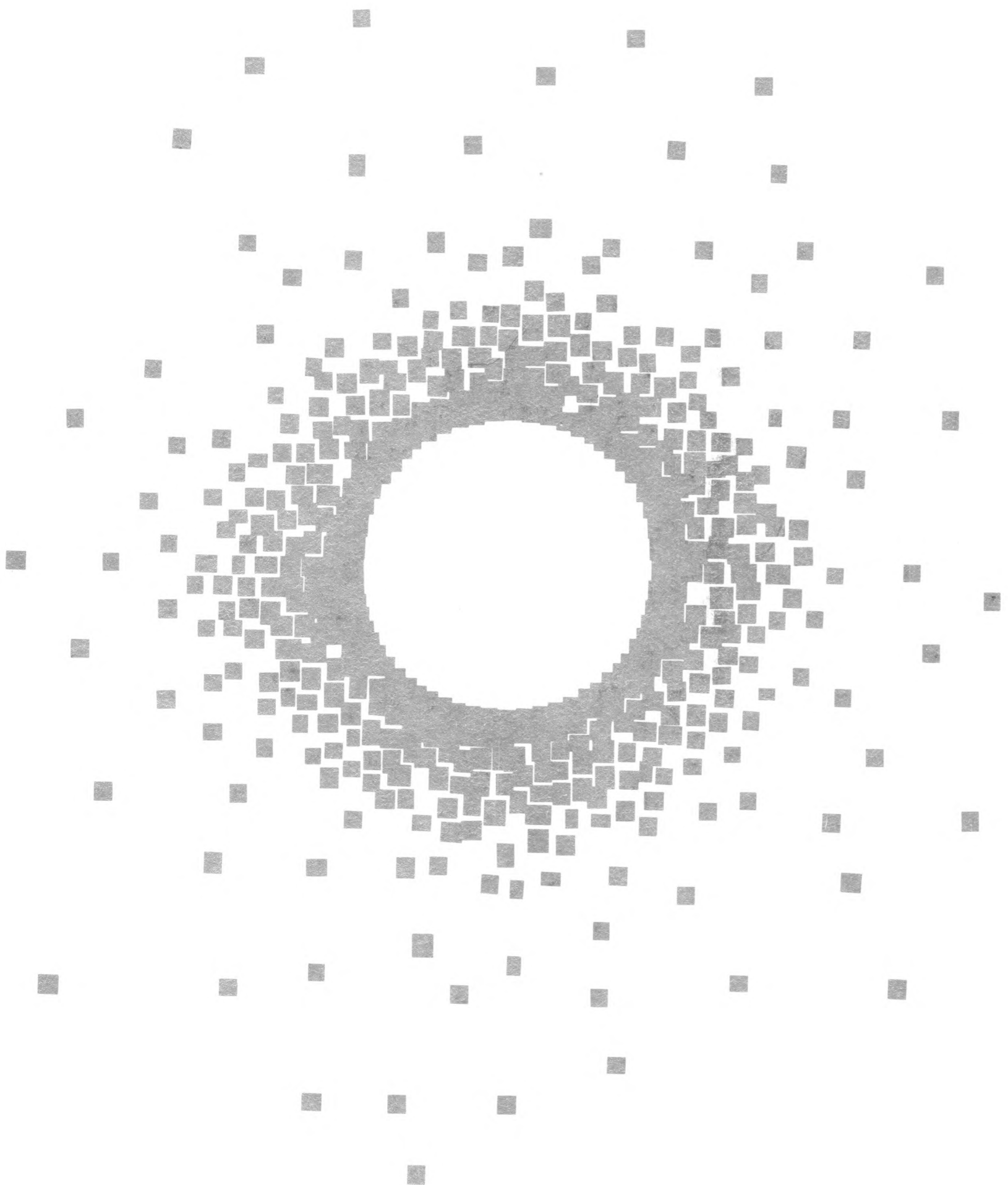


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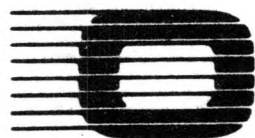
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Chapter 1

Advanced Tutorial

CLIENT INFORMATION AND APPOINTMENT CALENDAR

INTRODUCTION

This chapter illustrates a more advanced program which can be developed with PERSONAL PEARL. The program outlined here is similar to the INFO-SYSTEM that comes with your PERSONAL PEARL. In fact, both programs have a "CALENDR" form. Please do not confuse them. Do not use your INFOSYSTEM disk for this tutorial.

In our example, we design a program for an engineering consultant to manage information regarding clients and appointments. The information will be used to produce an appointment calendar, mailing labels, and invoices.

The program consists of two program units. The first program unit consists of a CLIENT form and a CLIENT report to print labels. The second program unit consists of a CALENDAR form with two reports for APPOINTMENTS and INVOICES.

We will design the forms first, then proceed to design reports. When the program has been designed, the file maintenance utilities of PERSONAL PEARL will be used to move the program under development to production status and illustrate some powerful data entry techniques.

We have two main objectives in this section. First, we will show you how to use some of the optional design steps and what they can do. And second, we will show how a program grows and changes over time to adapt to your individual needs.

In this example, we assume you have become acquainted with the operation of PERSONAL PEARL by following through the step-by-step procedures in the Easy Tutorial User's Guide. For this reason, we will omit most of the design steps presented in the earlier example and refer to the LAYOUT REPORTS which provide the details for layouts and data area definitions. Now is the time

for you to gain a better understanding of the layout reports, or proofing reports. Please take a minute to turn to Chapter 4 of the Reference Manual to learn how to produce and use layout reports. This understanding is essential before you proceed into the tutorial.

After designing the client appointment calendar, the ctrl/P option in the form layout menu and in the report layout menu was used to print report layouts. After designing the forms and reports, you can also produce layout reports to check your design against ours.

As we go through our example, we will pause for detailed looks at design steps that have not been previously presented. These are options 3 and 4 of the Design Forms and Design Reports menus plus suboptions available within each of them. The following summarizes the concepts covered:

1. Design CLIENT Form (Section 1).

Concept: Unique Index

Layout Report: FORM LAYOUT FOR CLIENT

2. Design the Appointment CALENDAR (Section 2).

Concepts: Computations
 Data From Other Forms

Layout Report: FORM LAYOUT FOR CALENDAR

3. Design Labels (Section 3).

Concept: Multi-up Labels

Layout Report: REPORT NAME: LABELS, APPLICATION NAME:
 CLIENT

4. Design Appointment CALENDAR Report (Section 4).

Concepts: Sorting
 Data From Other Forms

Layout Report: REPORT NAME: SCHEDULE, APPLICATION NAME:
 CALENDAR

5. Design Invoice Report (Section 5).

Concepts: Computations
Subtotals, Headings, Footings

Layout Report: REPORT NAME: INVOICE, APPLICATION NAME:
CALENDR

6. Making a New Production Disk (Section 6).

Concepts: Development Copy
Production Copy
Independence of Data Files
Continuing Development
File Maintenance

7. Advanced Techniques for Entering Data (Section 7).

Concepts: Getting Data From Other Forms
Browsing Other Forms
Duplicating Previous Data Area

8. Produce Labels (Section 8).

Concept: Generating Multi-Up Form Reports

9. Produce Schedule Report (Section 9).

Concepts: Selection Range
Console Output

10. Produce Invoices (Section 10).

Concept: Selection Range

11. Updating Production Disks with Program Changes (Section 11).

Concepts: Program Changes
Form Installation
Report Installation
File Maintenance
Index Changes

Layout Reports: FORM LAYOUT FOR CLIENT
FORM LAYOUT FOR CALENDR

SECTION 1. DESIGN THE CLIENT FORM

MAIN CONCEPT: SPECIFYING A UNIQUE INDEX

In this section, we will design a form for client information. Later, we will define an appointment calendar form which will access information from the client form based on the client's name. In order to do this, we will specify the name area of the client form as a "unique index" (Optional Step 3 -- Index for Finding Records). As stated in the introduction, we will not detail all the inputs for laying out the form or defining the data input areas because this process has been covered in the Easy Tutorial User's Guide.

For details on what we have named the data input areas and what their other specifications are, see the client form layout report shown in step 5. We created this report, after laying out our form, by using the ctrl/P option in the form layout menu.

INSTRUCTIONS:

1. Add the name CLIENT to the Form Directory.

You will be prompted for the form description. We call it the client information form.

2. Select Design Forms, Service 1.
3. Lay out the following using Form Layout, Step 1:

```

===== CLIENT INFORMATION FORM =====
NAME _____
ADDRESS _____
ADDRESS _____
CITY _____ STATE ____ ZIP 99999
WORK PHONE _____ HOME PHONE _____
PROJECT _____
===== FORM LAYOUT - CONTROL KEY COMMANDS =====
F - Word forward  V - Insert char  N - Insert line
A - Word back     G - Erase char   Z - Scroll up
C - Page forward  T - Erase word   W - Scroll down
R - Page back     Y - Erase line   O - Ignore & exit
Q - HELP          U - Line to top  ESC - Save & exit
PAGE: 1 LINE: 1  COL: 1  AREA NAME:

```

The layout report may be produced from this menu by entering a ctrl/P. This report is a useful reference in later steps of the design process when we refer to specifications previously entered in the design.

At this point in our design, only the layout itself will appear on the layout report. As you enter more and more information about the design, it will appear in later generations of the layout report which follows this section.

4. Define the Data Input Areas, Step 2.

Go through the layout entered in the previous step and name and define the data input areas as shown on the CLIENT LAYOUT REPORT.

If you want to review your entries after defining the data input areas, return to Step 1, FORM LAYOUT, press ctrl/P and you will get a printed listing of the layout of the CLIENT form.

5. Study of Report Layout for CLIENT form.

FORM LAYOUT (PAGE 1) FOR CLIENT

===== CLIENT INFORMATION FORM =====

NAME _____1

ADDRESS _____2

ADDRESS _____3

CITY _____4 STATE _5 ZIP ____6

WORK PHONE _____7 HOME PHONE _____8

PROJECT _____9

INPUT AREA ATTRIBUTES:

- 1 DATA AREA NAME: NAME
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890123

 1 2 3 4

REQUIRED DATA
- 2 DATA AREA NAME: AD1
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890

 1 2 3 4
- 3 DATA AREA NAME: AD2
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890

 1 2 3 4
- 4 DATA AREA NAME: CITY
DATA AREA TYPE: CHARACTER

123456789012345678901234

 1 2


```
5 DATA AREA NAME: STATE
  DATA AREA TYPE: CHARACTER
```

12

6 DATA AREA NAME: ZIP
DATA AREA TYPE: NUMBER

99999

12345

```
7 DATA AREA NAME: WKPHONE
  DATA AREA TYPE: CHARACTER
```

123456789012

1

```

8  DATA AREA NAME: HMPHONE
   DATA AREA TYPE: CHARACTER

```

1234567890123

1

9 DATA AREA NAME: PROJECT
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890

1

2

3

4

The first section of the report layout shows the screen as you have defined it, listing numerically the input (or output) areas you defined, in the order they were defined, i.e., 1, 2, 3, etc.

The second section of the report lists the INPUT (or OUTPUT) AREA ATTRIBUTES. Let's take the first INPUT AREA attribute as an example:

```
1  DATA AREA NAME: NAME
   DATA AREA TYPE: CHARACTER
```

1234567890123456789012345678901234567890123

1

2

3

4

REQUIRED DATA

WHERE:

- a. 1 is the first input area defined,
- b. DATA AREA NAME: the “name” of this input area is NAME,

- c. DATA AREA TYPE: this input area will be of "type" CHARACTER,
- d. You may input up to 43 characters in this line:

1234567890123456789012345678901234567890123
1 2 3 4

- e. This input area will allow for up to 43 characters during data entry.
- f. Data entry into this input area is **required**.

The report layouts are a very useful feature of form and report definition. By referring to these reports, you can immediately find out what names you have given input (or output) areas and the attributes of each area defined. This is especially useful if you are going to be accessing data from other forms that have been defined (as described in Section 2 of this tutorial). This is because input areas that use data from other forms must have the same name and attributes of the form being called. Chapter 4 of the Reference Manual describes in detail this feature of PERSONAL PEARL.

6. Set Control for Index for Finding Records, Optional Step 3.

Now we come to the concept this lesson is intended to illustrate. In the following steps, we will define the name area in the client form as an "index for finding records" which will have one and only one of any particular name. We say then that "NAME" is a unique index on the client form. We could make other indices on the file if desired, but in this example the "NAME" data input area is the only index we need.

Let's take a detailed look at this step.

The form will be displayed with the "INDEX FOR FINDING RECORDS" menu displayed at the bottom. Now move the cursor to the data input area where the name is to be entered --anywhere in the area is fine. The name of the data input area, in this case NAME, will be displayed on the bottom line indicating that the cursor is in the right place.

```

===== CLIENT INFORMATION FORM =====

NAME _____

ADDRESS _____

ADDRESS _____

CITY _____ STATE ____ ZIP 99999

WORK PHONE _____ HOME PHONE _____

PROJECT _____

___ INDEX FOR FINDING RECORDS - CONTROL KEY COMMANDS ___
F - Forward to area      B - Select data input area
A - Back to area         Z - Scroll up
C - Page forward         W - Scroll down
R - Page back            O - Ignore & exit
Q - HELP                 ESC - Save & exit

PAGE: 1 LINE: 3 COL: 6 AREA NAME: NAME

```

Next type a ctrl/B to enter the "building the index" menu for the "NAME" data input area. This menu is displayed below the form. Your responses are shown in boldface.

```

_____ BUILDING THE INDEX _____
WILL YOU USE THIS AREA TO IDENTIFY AND FIND
INDIVIDUAL RECORDS? (Y/N) Y

WILL DATA IN THIS AREA UNIQUELY IDENTIFY ONE
RECORD IN THIS FILE? (Y/N) Y

```

By answering the first question Y)es, we define the NAME data input area as an index for the form. The answer of Y)es to the second question causes the index to be unique.

A unique index has only one entry of any particular value. In our case, only one client named John Q. Doe could be entered. If we had answered N) to the second question, thereby specifying a nonunique index, PERSONAL PEARL would allow more than one John Q. Doe to have forms in our file. One reason we are using a unique index is to assure that billable appointments are billed to the right client.

Remember that we briefly discussed the report layout of the CLIENT form in item 6 above. If ctrl/P were pressed now, the first data input area NAME would now have one more "attribute" added to it as follows:

1 DATA AREA NAME: NAME
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890123
 1 2 3 4

REQUIRED DATA
DATA AREA IS UNIQUE INDEX

Note that DATA AREA IS UNIQUE INDEX has been added. This shows you that NAME is a UNIQUE index on the CLIENT form and will be used for finding records.

7. Install Finished Form, Step 5.

SECTION 2. DESIGN THE APPOINTMENT CALENDAR FORM

MAIN CONCEPTS: 1. COMPUTATIONS
2. DATA FROM OTHER FORMS

In this section we will design a form for appointments with clients. The calendar form is somewhat more complex than the client information form we created in Section 1. The calendar form performs calculations on numeric data and also accesses information from another form, namely, the CLIENT form described in Section 1. The appointment calendar will be used to create a calendar of appointments, to record meetings which have occurred, and to compute billings.

By now, you have had experience in form layout and in defining data input areas, so we will not detail these steps. The details for defining the data input areas are on the following calendar form layout report (see page 17) which we generated when we created our form, using the ctrl/P option on the form layout menu.

NOTE

The CALENDR form we create here is not the same as that on the INFOSYSTEM disk.

INSTRUCTIONS:

1. Add CALENDR to the Form Directory.
2. Lay out the following form, Form Layout, Step 1:

```

===== APPOINTMENT CALENDAR =====

DATE MM/DD/YY   TIME 99.99 _ M

NAME: _____
PROJECT: _____
HOME PHONE: _____ WORK PHONE: _____

TIME SPENT 9999.99
TIME RATE  9999.99
          _____
FEE      9999.99

MEMO _____

MEMO _____

===== FORM LAYOUT - CONTROL KEY COMMANDS =====
F - Word forward  V - Insert char  N - Insert Line
A - Word back     G - Erase char   Z - Scroll up
C - Page forward  T - Erase word   W - Scroll down
R - Page back     Y - Erase line   O - Ignore & exit
Q - HELP          U - Line to top  ESC - Save & exit
PAGE: 1 LINE: 1  COL: 1   AREA NAME:

```

3. Define Data Input Areas, Step 2.

Most of the data input areas are defined just as in the forms we have already discussed. However on this form, just past "WHO", are several data areas which are to be brought over from the client form.

The client's NAME, the PROJECT and the home and work telephone numbers, HMPHONE and WKPHONE respectively, are brought over from the client form.

When defining data input areas that use data from other forms, it is important that the data input area name be the same on both forms. It is convenient to refer to the layout report for the other form to get the names.

COMPUTATIONS

4. Next we will look at defining calculated data areas.

The FEE data area illustrates one of the main concepts to be examined in this section of the tutorial. FEE is a calculated data area. Entering the calculation for FEE is straightforward.

In the screen displayed next, we have moved the cursor to the data area for FEE and typed a ctrl/B. The menu then changes to display the data area definition menu.

```

===== APPOINTMENT CALENDAR =====

DATE MM/DD/YY   TIME 99.99

NAME: _____
PROJECT: _____
HOME PHONE: _____ WORK PHONE: _____

TIME SPENT 9999.99
TIME RATE  9999.99
          _____
FEE      9999.99

MEMO _____

MEMO _____

_____ DATA INPUT AREAS - CONTROL KEY COMMANDS _____
F - Word forward      B - Define data input area
A - Word back         Z - Scroll up
C - Page forward      W - Scroll down
R - Page back         O - Ignore & exit
Q - HELP              ESC - Save & exit

PAGE: 1 LINE: 12 COL: 16   AREA NAME:

```

Then type ctrl/B to display the define data area menu.

```

_____ DATA INPUT AREA DEFINITION _____

NAME THE DATA INPUT AREA HERE: FEE_____
IS INPUT REQUIRED? (Y/N) N   TYPE OF INPUT? N
C=Letters/Numbers, D=Date, N = Numbers (computations)
FORMULA FOR COMPUTATION OF INPUT (OPTIONAL): SPENT*RATE
_____

```

We have answered the questions as shown, thus naming the input area FEE, a non-required data input area of N)umbers. The computation is entered as: the product of SPENT times RATE, both of which are other data input areas on the form.

In defining computations you can use parentheses, arithmetic operators (+ - * /), and data from the current form and other forms.

In this simple example of a computation, we use only data areas in the CALENDR form.

DATA FROM OTHER FORMS

5. Data From Other Forms, Optional Step 4.

This section illustrates another important concept -- how to access data from other forms. In order to access another form, we must provide a way to find the desired record from the other file. In our example, we want to access certain information from the CLIENT form we designed in Section 1. The information we access from the CLIENT form will be displayed in the CALENDR form. In order to transfer the information, we will specify CLIENT as the form name from which the information will come. The data input area "NAME" on the CLIENT form is the key for identifying the record on the CLIENT form. During ENTER DATA, when the CLIENT record has been identified, the requested information will be displayed on the CALENDR form.

When step 4 is selected from the design forms menu the following screen will be displayed.

Move the cursor to the NAME area so that NAME appears in the bottom line of the menu area.


```
===== APPOINTMENT CALENDAR =====  
  
DATE MM/DD/YY   TIME 99.99  _ M  
  
NAME: _____  
PROJECT: _____  
HOME PHONE: _____ WORK PHONE: _____  
  
TIME SPENT 9999.99  
TIME RATE  9999.99  
          _____  
FEE       9999.99  
  
MEMO _____  
  
MEMO _____  
____ DATA FROM OTHER FORMS - CONTROL KEY COMMANDS ____  
F - Forward to area      B - Select data input area  
A - Back to area         Z - Scroll up  
C - Page forward         W - Scroll down  
R - Page back            O - Ignore & exit  
Q - HELP                 ESC - Save & exit  
PAGE: 1 LINE: 5  COL: 5  AREA NAME: NAME
```

Next type ctrl/B, which will bring up the following menu. Your response is shown in boldface.

```
_____ USING DATA FROM ANOTHER FORM _____  
WHAT IS THE OTHER FORM NAME? CLIENT_  
  
DOES DATA IN THIS AREA IDENTIFY AND LINK  
ANOTHER FORM? (Y/N) Y  
  
PAGE: 1 LINE: 5  COL: 5  AREA NAME: NAME
```

By answering the questions as shown above, we have defined access to the client form using the name area. NAME is then the “contact key” for sending information from the CLIENT form to the CALENDR form. This key is also known as a “path key” since it defines the path of information between the forms.

Next we proceed to define other data input areas to be carried across from the other form. To do this, move the cursor to the next data input area to be defined, in this case, the PROJECT area so that PROJECT appears in the bottom line of the menu as shown below:

```

_____ DATA FROM OTHER FORMS - CONTROL KEY COMMANDS _____
F - Forward to area          B - Select data input area
A - Back to area             Z - Scroll up
C - Page forward             W - Scroll down
R - Page back                O - Ignore & exit
Q - HELP                     ESC - Save & exit

PAGE: 1 LINE: 6 COL: 5 AREA NAME: PROJECT

```

Next, type ctrl/B to define the data input area. This will cause the following menu to be displayed:

```

_____ USING DATA FROM ANOTHER FORM _____
WHAT IS THE OTHER FORM NAME? CLIENT_

WILL DATA IN THIS AREA IDENTIFY AND LINK
ANOTHER FORM? (Y/N) N

IS DATA FROM THE OTHER FORM BROUGHT INTO THIS
AREA FOR DISPLAY ONLY? (Y/N) Y
PAGE: 1 LINE: 6 COL: 5 AREA NAME: NAME PROJECT

```

The responses we have made will identify the form to access and indicate that some other data input area will provide a way to find the desired record (in this case, we have already indicated that NAME will provide the identifying "contact key" to find the form).

The response to the last question is required only when the second question is answered "N". If "Y" is answered to the "display only", question, then the data displayed is always the same as that in the client form. If "N" is answered, then the data is brought over when the data area is edited and remains the same even if the client form is updated.

The other areas, home and work phone, are also accessed from the client form with the same responses used for the PROJECT area.

6. Study Report Layout for CALENDR.

FORM LAYOUT (PAGE 1) FOR CALENDR

===== APPOINTMENT CALENDAR =====

DATE _____1 TIME ____2 3 M

NAME: _____4

PROJECT: _____5

HOME PHONE: _____6 WORK PHONE: _____7

TIME SPENT _____8

TIME RATE _____9

_____10
FEE

MEMO _____11

MEMO _____12

INPUT AREA ATTRIBUTES:

1 DATA AREA NAME: ADATE
DATA AREA TYPE: DATE
MM/DD/YY
12345678
REQUIRED DATA
DATA AREA IS NON UNIQUE INDEX

2 DATA AREA NAME: ATIME
DATA AREA TYPE: NUMBER
99.99
12345
REQUIRED DATA

3 DATA AREA NAME: AMPM
DATA AREA TYPE: CHARACTER
-
1
REQUIRED DATA

4 DATA AREA NAME: NAME
DATA AREA TYPE: CHARACTER

123456789012345678901234567890123456789012345678
 1 2 3 4

REQUIRED DATA
DATA AREA IS NON UNIQUE INDEX
FORM: <CLIENT> ACCESS KEY

5 DATA AREA NAME: PROJECT
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890123456
 1 2 3 4

FORM: <CLIENT> DISPLAY ONLY

6 DATA AREA NAME: HMPHONE
DATA AREA TYPE: CHARACTER

123456789
FORM: <CLIENT> DISPLAY ONLY

7 DATA AREA NAME: WKPHONE
DATA AREA TYPE: CHARACTER

123456789
FORM: <CLIENT> DISPLAY ONLY

8 DATA AREA NAME: SPENT
DATA AREA TYPE: NUMBER

9999.99
1234567

9 DATA AREA NAME: RATE
DATA AREA TYPE: NUMBER

9999.99
1234567

10 DATA AREA NAME: FEE
DATA AREA TYPE: NUMBER

9999.99
1234567

COMPUTATION: SPENT*RATE

11 DATA AREA NAME: AMEM01
DATA AREA TYPE: CHARACTER

12345678901234567890123456789012345678901234567890
 1 2 3 4 5

12 DATA AREA NAME: AMEM02
DATA AREA TYPE: CHARACTER

1	2	3	4	5
1234567890	1234567890	1234567890	1234567890	1234567890

Note that DATA INPUT AREAs 4, 5, 6 and 7 all received data from the CLIENT form described in Section 1. Thus, you would want to be sure that the DATA AREA NAMEs used in the CALENDR form are the **same** as those used in the previously described CLIENT form. If the names are different, you would want to correct them now, or you would not be able to use the CALENDR form.

Also note that the DATA INPUT AREA called NAME on the CALENDR form is a non-unique index and that it is the “access” key to CALENDR. The other input areas are for “display only”.

- 7. Install Finished Form, Step 5.

SECTION 3. DESIGN LABELS

MAIN CONCEPT: MULTI-UP LABELS

In this section we will examine a simple fixed-type report for the CLIENT form that we designed in Section 1. This report may be printed out multi-up. That is, the report may be printed in several columns as for label stock which is several labels across. This section and Section 8 work together to produce multi-up labels. The report design is described here and Section 8 shows how to print the labels.

We will also set the sort priorities so that the labels are printed in alphabetical order within zip code. The form name for the file is CLIENT

INSTRUCTIONS:

1. Select Form CLIENT.
2. Select Service 2, Design Reports.
3. Add the name LABELS to the Report Directory.
4. When prompted, select to Design From Scratch, Option 3.

You will be prompted for the report type (fixed, list or SuperCalc). In order to generate multi-up reports, the LABELS report must be specified as a FIXED type.

5. Describe the report as "multi-up labels".
6. Create the following (fixed) Report Layout, Step 1:

— 99999

REPORT LAYOUT - CONTROL KEY COMMANDS

F - Word forward	V - Insert char	N - Insert line
A - Word back	G - Erase char	Z - Scroll up
C - Page forward	T - Erase word	W - Scroll down
R - Page back	Y - Erase line	O - Ignore & exit
Q - HELP	U - Line to top	ESC - Save & exit

PAGE: LINE: COL: AREA NAME:

7. Define the Data Output Areas, Step 2.

For details used to define the data output areas, refer to the layout report for the LABELS report we created using the ctrl/P option when we designed our report. The layout report may be reviewed in Chapter 4 of the Reference Manual.

NOTE

During the design reports process (Step 1), you can use the ctrl/P option to produce a copy of the LABELS layout report to check your definitions against ours.

8. Define the Sort Priority, Optional Step 3.

The following menu will be displayed:

```

_____ SORT PRIORITY _____
INDICATE SORT PRIORITY USING INPUT AREA NAMES:
1) ZIP____, 2) NAME____, 3) _____, 4) _____, 5) _____
-         -         -         -         -
Enter R below area name to reverse order
Press RETURN to continue, ? for HELP, or ESC to EXIT
```

We have entered the names of two data output areas on which to sort, ZIP and NAME. Since ZIP is first, it is the main sort priority. This means the report will be in zip code order, and when the zip codes are the same, the report will be in name order.

Since both of the data output areas we are sorting by are to be in ascending order, it was not necessary to enter any R's to indicate reverse order. After entering ZIP and NAME in sort areas, hit ESCAPE to save and exit.

9. Install Finished Report, Step 5.

NOTE

See Section 8 on how to produce multi-up label reports.

REPORT NAME: LABELS, FORM NAME: CLIENT

_____ 1
_____ 2
_____ 3
_____ 4 5 _____ 6

REPORT DESCRIPTION: MAILING LABELS

REPORT TYPE: FORM

SORT SEQUENCE: ZIP.NAME

REPORT OUTPUT AREA ATTRIBUTES:

- 1 DATA AREA NAME: NAME

1234567890123456789012345678901234

1 2 3

- 2 DATA AREA NAME: AD1

1234567890123456789012345678901234

1 2 3

- 3 DATA AREA NAME: AD2

1234567890123456789012345678901234

1 2 3

- 4 DATA AREA NAME: CITY

1234567890123456789012345
1 2

- 5 DATA AREA NAME: STATE

12

- 6 DATA AREA NAME: ZIP

99999
12345

SECTION 4. DESIGN APPOINTMENT CALENDAR REPORT

MAIN CONCEPTS: 1. SORTING
2. DATA FROM OTHER FORMS

In this section, we will create a report for the calendar form which accesses information from an external (sending) form. In this example, the other form is the client form, from which we will get the client's phone number using the client's name to find the right form.

Also illustrated is another example of sorting. In this case, we will sort by date, and by time to get the appointments into temporal order. The form name is CALENDR.

INSTRUCTIONS:

1. Select CALENDR from the Form Directory.
2. Select DESIGN REPORTS, Service 1.
3. Add SCHEDUL, a list type report to the Report Directory.
4. Design from Scratch, Option 3.
5. Create the following Report Layout, Step 1.

The layout of a list-type report has several special features of which you'll need to be aware. Each line contained in the report layout will be a member of one of several groups. These groups are: HEADING, DETAIL, SUBTOTAL, TOTAL and FOOTING. The group to which the current cursor position belongs is indicated in the lower left-hand corner of the report layout menu. To change the group, type a **ctrl/C**. By typing a series of **ctrl/C**'s, you can cycle through all the report line groups.

Note the use of **<BLANK>** to force blank lines in the report. You'll remember from the preceding tutorial that typing **<BLANK>** creates a blank line.

Also note the use of **PAGE ####**. Four pound signs in a row is a special symbol for PERSONAL PEARL and will be replaced with the current page number when the report is produced.

At this point, you may list the report layout by depressing **ctrl/P**. For a detailed discussion of this special layout report feature, see Chapter 4, Design Aids, of the Reference Manual. The report layout and data output area definitions for this report follow this section.

```
===== APPOINTMENT CALENDAR =====
<BLANK>
DATE      TIME      CLIENT      HOME      WORK
-----
<BLANK>
MM/DD/YY 99.99  _____  _____  _____
<BLANK>
===== PAGE ##### =====
```

```

----- REPORT LAYOUT - CONTROL KEY COMMANDS -----
F - Word forward  V - Insert char  N - Insert line
A - Word back     G - Erase char   Z - Scroll up
C - Group forw'd  T - Erase word   W - Scroll down
R - Group back    Y - Erase line   O - Ignore & exit
Q - HELP          U - Line to top  ESC - Save & exit

FOOTING LINE:    COL:      AREA NAME:
```

Groups were as follows:

HEADING:

```
===== APPOINTMENT CALENDAR =====
```

<BLANK>					
DATE	TIME	CLIENT		HOME	WORK

<BLANK>					

DETAIL:

MM/DD/YY 99.99 _____

FOOTING:

===== PAGE ##### =====

See the Report Layout for SCHEDUL following this section.

6. Define the Data Output Areas, Step 2.

Refer to the layout report following this section for details on defining the data output areas.

Note that we intend to send information from the Client Information Form to this report so the names of the data areas to be output must be the same as those defined in the CLIENT form.

SORTING

7. Sort Priority, Optional Step 3.

We have defined the sort priorities as follows:

```
_____ SORT PRIORITY _____  
INDICATE SORT PRIORITY USING INPUT AREA NAMES:  
1) ADATE, 2) AMPM, 3) ATIME, 4) _____, 5) _____  
- - - - -  
Enter R below area name to reverse order  
Press RETURN to continue, ? for HELP, or ESC to EXIT
```

This will result in a time within date order. Note the use of the "AM" or "PM" data area to put morning times before afternoon times.

DATA FROM OTHER FORMS

8. Data From Other Forms, Optional Step 4.

To define the data to be accessed from the client form, first place the cursor on the NAME area which we will use to find the correct client form. When the cursor is in the right place, NAME will appear in the last line of the data from other forms menu.

APPOINTMENT CALENDAR

<BLANK>

DATE	TIME	CLIENT	HOME	WORK
<BLANK>				
MM/DD/YY 99.99				
<BLANK>				

PAGE ####

DATA FROM OTHER FORMS - CONTROL KEY COMMANDS

F - Forward to area	B - Select data input area
A - Back to area	Z - Scroll up
C - Group forward	W - Scroll down
R - Group forward	O - Ignore & exit
Q - HELP	ESC - Save & exit

DETAIL LINE: 6 COL: 17 AREA NAME: NAME

Press ctrl/B to display the next menu.

USING DATA FROM ANOTHER FORM

WHAT IS THE OTHER FORM NAME? CLIENT_

DOES DATA IN THIS AREA IDENTIFY RECORDS FROM ANOTHER FORM? (Y/N) Y

Move the cursor on the the next data area to be accessed, the home phone number. The data area name "HMPHONE" will appear in the last line of the menu when the cursor is positioned correctly.

DATA FROM OTHER FORMS - CONTROL KEY COMMANDS

F - Forward to area	B - Select data input area
A - Back to area	Z - Scroll up
C - Group forward	W - Scroll down
R - Group back	O - Ignore & exit
Q - HELP	ESC - Save & exit

DETAIL LINE: 6 COL: 48 AREA NAME: HMPHONE

Press ctrl/B to bring up the next menu.

```
_____ USING DATA FROM ANOTHER FORM _____  
WHAT IS THE OTHER FORM NAME? CLIENT_  
  
DOES DATA IN THIS AREA IDENTIFY RECORDS  
FROM ANOTHER FORM? (Y/N) N
```

Note we have specified the form from which to access the data, but we have not set this area as the identifying area, as we are using NAME to find the form.

Define the work phone number in an same manner.

9. Install Finished Form, Step 5.

REPORT NAME: SCHEDUL, FORM NAME: CALENDR

HEADING

===== APPOINTMENT CALENDAR =====

<BLANK>

DATE	TIME	CLIENT	HOME	WORK
------	------	--------	------	------

<BLANK>

DETAIL

_____1 _____2 _____3 _____4 _____5

FOOTING

<BLANK>

===== PAGE #### =====

REPORT DESCRIPTION: APPOINTMENT SCHEDULE
REPORT TYPE: LIST
SORT SEQUENCE: ADATE.AMPM.ATIME

REPORT OUTPUT AREA ATTRIBUTES:

- 1

DATA AREA NAME: ADATE

MM/DD/YY

12345678
- 2

DATA AREA NAME: ATIME

99.99

12345
- 3

DATA AREA NAME: NAME

123456789012345678901234567890

1

2

3

FORM: <CLIENT> ACCESS KEY
- 4

DATA AREA NAME: HMPHONE

123456789012

1

FORM: <CLIENT> PRINT/DISPLAY ONLY
- 5

DATA AREA NAME: WKPHONE

12345678901

1

FORM: <CLIENT> PRINT/DISPLAY ONLY

SECTION 5. DESIGN INVOICE REPORT

MAIN CONCEPTS: 1. COMPUTATIONS
2. SUBTOTALS, HEADINGS, FOOTINGS

In this section, we will design a report which will perform computations and subtotal breaks. This report is designed from the CALENDR program unit.

INSTRUCTIONS:

1. Select CALENDR from Form Directory.
2. Select DESIGN REPORTS, Service 2.
3. Add INVOICE to the report directory as a list-type report.
4. Choose DESIGN REPORT FROM SCRATCH, Option 3.
5. Lay out the following report:

```

=====
<BLANK>
      BAKER ENGINEERING SERVICES
<BLANK>
      I N V O I C E
<BLANK>
=====
<BLANK>
_____
_____
_____
_____
DATE      MEMO      TIME      FEE
-----
<BLANK>
MM/DD/YY  _____  999.99   99999.99
                                     _____
                                TOTALS:  999.99  99999.99
<PAGE>
----- REPORT LAYOUT - CONTROL KEY COMMANDS -----
F - Word forward  V - Insert char  N - Insert line
A - Word back     G - Erase char   Z - Scroll up
C - Group forw'd  T - Erase word   W - Scroll down
R - Group back    Y - Erase line   O - Ignore & exit
Q - HELP          U - Line to top  ESC - Save & exit
HEADING  LINE:    COL:    AREA NAME:
  
```


When laying out this report, each line will belong to one of five groups: HEADING, DETAIL, SUBTOTAL, TOTAL and FOOTING. The current group is display in the lower-left corner. Change groups using ctrl/C.

NOTE

The layout for this report is larger than the display screen. For details on the report layout, see the layout report following this section.

NOTE

The use of **<PAGE>** to force page ejects after subtotals.

6. Define Data Output Areas, Step 2.

NOTE

The client's name and address are sent over by the client form so they must be named the same way they are in the client form as we have seen in the schedule report.

In this report, the "subtotal report" group is used. The data output areas labeled as "TOTALS" in the layout are actually the subtotal of the appointments with that client. For this reason, we will assign the first sort priority to the name. With PERSONAL PEARL, every time the name changes the subtotal parts of the report are printed.

These two data output areas adjacent to the word "TOTALS" are named TSPENT for total time spent and TFEE for the total fee. Let us look at the definitions for these two areas more closely.

Place the cursor on the area for total time and enter ctrl/B.

<BLANK>

BAKER ENGINEERING SERVICES

<BLANK>

INVOICE

<BLANK>

<BLANK>

DATE	MEMO	TIME	FEE
------	------	------	-----

<BLANK>

MM/DD/YY _____ 999.99 99999.99

TOTALS: 999.99 99999.99

<PAGE>

DATA OUTPUT AREA DEFINITION

NAME THE DATA OUTPUT AREA HERE: TSPENT_

FORMULA FOR COMPUTATION OF OUTPUT (OPTIONAL): TSPENT+SPENT_

The responses in boldface above will control the subtotalling for the time spent. Note the data output area SPENT involved in the computation is defined in the CALENDR form. TSPENT is a new name used only in this report.

The definition of the total fee data area is analogous to the total time area.

7. Sort Priority, Optional Step 3.

Enter the sort priority as follows:

```
_____ SORT PRIORITY _____  
INDICATE SORT PRIORITY USING INPUT AREA NAMES:  
1) NAME____, 2) ADATE____, 3) AMPM____, 4) ATIME____, 5) ____  
- - - - -  
Enter R below area name to reverse order  
Press RETURN to continue, ? for HELP, or ESC to EXIT
```

NOTE

The NAME area is the first priority as it is also the controlling information for subtotalling.

8. Data From Other Forms, Optional Step 4.

The specifications for sending information from the CLIENT form are the same as those used in the schedule report in the previous section. In addition to using NAME to identify the correct form, the data areas which make up the address are also defined as coming from the CLIENT form.

9. Install Finished Report, Step 5.

REPORT NAME: INVOICE, FORM NAME: CALENDR

HEADING

<BLANK>

BAKER ENGINEERING SERVICES

<BLANK>

INVOICE

<BLANK>

<BLANK>

1

2

3

4 5 6

<BLANK>

DATE	MEMO	TIME	FEE
------	------	------	-----

<BLANK>

DETAIL

7

8

9

10

SUBTOT

TOTALS:

11

12

<PAGE>

REPORT DESCRIPTION: MONTHLY CLIENT INVOICE
REPORT TYPE: LIST
SORT SEQUENCE: NAME.ADATE.ATIME

REPORT OUTPUT AREA ATTRIBUTES:

- 1 DATA AREA NAME: NAME

1234567890123456789012345678901234567

1 2 3

FORM: <CLIENT> ACCESS KEY
- 2 DATA AREA NAME: AD1

1234567890123456789012345678901234567

1 2 3

FORM: <CLIENT> PRINT/DISPLAY ONLY

3 DATA AREA NAME: AD2

1234567890123456789012345678901234567

1 2 3

FORM: <CLIENT> PRINT/DISPLAY ONLY

4 DATA AREA NAME: CITY

1234567890123456789012345678

1 2

FORM: <CLIENT> PRINT/DISPLAY ONLY

5 DATA AREA NAME: STATE

12

FORM: <CLIENT> PRINT/DISPLAY ONLY

6 DATA AREA NAME: ZIP

99999

12345

FORM: <CLIENT> PRINT/DISPLAY ONLY

7 DATA AREA NAME: ADATE

MM/DD/YY

12345678

8 DATA AREA NAME: AMEM01

12345678901234567890123456789

1 2

9 DATA AREA NAME: SPENT

999.99

123456

10 DATA AREA NAME: FEE

99999.99

12345678

11 DATA AREA NAME: TSPENT

999.99

123456

COMPUTATION: TSPENT+SPENT

12 DATA AREA NAME: TFEE

99999.99

12345678

COMPUTATION: TFEE+FEE

SECTION 6. MAKING A NEW PRODUCTION DISK

- MAIN CONCEPTS:
1. DEVELOPMENT COPY
 2. PRODUCTION COPY
 3. INDEPENDENCE OF DATA FILES
 4. CONTINUING DEVELOPMENT
 5. FILE MAINTENANCE

In this section, we will move the newly created client appointment calendar to production status. That is, we will use the PERSONAL PEARL File Maintenance functions to create a Program and Data Disk with new empty data files ready to start capturing and managing live information.

After this step in the development of a PERSONAL PEARL program, you will have two program disks, a DEVELOPMENT copy and a PRODUCTION copy. The reason for having two copies is to separate the actual use of the program from the development process so both can continue at the same time.

At this point, you can begin using the client appointment calendar to manage information with the production copy while creating additional reports and forms on the development copy. When you decide that the new additions to the development copy are ready to go into production, the file maintenance functions may be used to update the existing production copy, adding the new features you have designed while maintaining all the previously captured live information. We will examine this process of updating an existing production copy in Section 11 of the advanced tutorial chapter.

INSTRUCTIONS:

1. Enter: PEARLFM

When the program has been loaded, the Form Directory will be displayed as follows:

FORM	DESCRIPTION
CALENDR	APPOINTMENT CALENDAR
CLIENT	CLIENT INFORMATION

_____ FORM DIRECTORY _____

GIVE PEARL A NEW OR PREDEFINED FORM NAME: CLIENT_

The procedure for creating a new production disk is repeated for each program unit, in this case, for both the CLIENT program unit and the CALENDR program unit.

Remember that a program unit consists of a form and its associated reports.

We will begin with the CLIENT program unit.

When the form name is entered, the file maintenance menu is displayed:

- | | |
|----------------------|---------------------------|
| 1: FILE SUMMARY DATA | 4: CREATE DATA FILE |
| 2: REBUILD INDEX | 5: TRANSFER FORM CHANGES |
| 3: COMPACT DATA FILE | 6: TRANSFER PROGRAM FILES |

FILE MAINTENANCE MENU

Form Name: CLIENT

ENTER A SERVICE NUMBER: 4

Press RETURN to continue, ? for HELP, or ESC to EXIT

The functions required to create a production copy are 4 and 6, create a new data file and transfer program files.

We start with creating data files. When option 4 is entered, you will be prompted to mount disks. The actual disk drives used in the process are determined during the installation of PERSONAL PEARL and are controlled in the INSTALL.DAT file. In our example, we will use the two drive configuration which has PERSONAL PEARL on drive A and the programs and data files on drive B at runtime.

The following series of prompts will appear.

PLACE DEVELOPMENT MASTER DISKETTE ON DRIVE- A
PLACE DISKETTE FOR NEW DATA FILE ON DRIVE- B

PRESS RETURN TO CONTINUE, OR ESCAPE TO EXIT

USER: Mount the development disk in drive A

(This disk is probably currently in B if you are continuing from the previous sections.)

USER: Mount the new blank production disk on B and

Type RETURN.

At this point, the new data files will be created. When the process is complete, you will be prompted to remount the File Maintenance Disk on A to continue as follows:

Place FILE MAINTENANCE DISKETTE on drive: A
Press RETURN to continue

The file maintenance menu will then be displayed.

Next, we will go to function 6, copying program files. When the option is selected, you will be prompted to mount disks as follows:

CREATE/UPDATE PROGRAM DISK FOR CLIENT

OUTPUT (PROGRAM) DISK DRIVE IS B
INPUT (DEVELOPMENT) DISK DRIVE IS A
OK TO CONTINUE (Y/N) Y

USER: Enter Y

PLACE CLIENT DEVELOPMENT DISKETTE ON DRIVE: A
PRESS RETURN TO CONTINUE, OR ESCAPE TO TERMINATE

USER: Mount development disk on A and
 Press RETURN

COPYING PROGRAM FILES FROM DRIVE A TO DRIVE B

PLACE DISKETTE TO COPY PROGRAM FILES TO ON DRIVE: B
PRESS RETURN TO CONTINUE, OR ESCAPE TO TERMINATE

USER: Mount the new production disk on B and
 Press RETURN

PERSONAL PEARL will begin to copy the program files to the production disk, displaying the following messages.

COPYING: A:CLIENT.DIR
COPYING: A:CLIENT.L00
COPYING: A:LABELS.M00

COPY PROCESSING COMPLETED, PRESS RETURN TO CONTINUE

USER: Press RETURN

PERSONAL PEARL will prompt you to remount the File Maintenance Disk as follows:

Place FILE MAINTENANCE DISKETTE on drive: A
Press RETURN to continue

USER: Mount the File Maintenance Disk on A, then
 Mount the development disk on B and
 Press RETURN

We are remounting the development disk because the CALENDR program unit still needs to be moved to the production disk.

The file maintenance menu will be displayed:

- | | |
|----------------------|---------------------------|
| 1: FILE SUMMARY DATA | 4: CREATE DATA FILE |
| 2: REBUILD INDEX | 5: TRANSFER FORM CHANGES |
| 3: COMPACT DATA FILE | 6: TRANSFER PROGRAM FILES |

FILE MAINTENANCE MENU

Form Name: CLIENT

ENTER A SERVICE NUMBER:

Press RETURN to continue, ? for HELP, or ESC to EXIT

At this point, we have completed the process for the CLIENT program unit. Next, exit the file maintenance menu with an ESCape, and the Form Directory will be displayed. Select the CALENDR program and return to the file maintenance menu.

Now repeat the process used to move the CLIENT program unit to production on the CALENDR program unit in exactly the same manner. First perform file maintenance function 4 to create data files, then go on to function 6 to move the program files.

When the CALENDR program unit has been processed, the Production Copy is ready for use.

SECTION 7. ADVANCED TECHNIQUES FOR ENTERING DATA

MAIN CONCEPTS: 1. GETTING DATA FROM OTHER FILES
2. BROWSING OTHER FORMS
3. DUPLICATING PREVIOUS DATA

In this section, we will look at some powerful data entry techniques to make the capture of information easy and accurate.

We will first look at how to enter data into the CALENDR form in order to access data from the CLIENT form. Next, we will show how to browse through the CLIENT form while entering data into the CALENDR form. And finally, we will demonstrate the "duplicate previous entry" option.

We assume that you are now familiar with how to move the cursor from data area to data area and with ADDING as opposed to EDITING. Recall that the add mode is entered with the ctrl/B and edit mode is entered with the ctrl/E.

Before continuing with this section, you should enter some clients into the client information form. Since we are using data from the CLIENT form on the CALENDR form, PERSONAL PEARL won't even allow a CALENDAR form to be added to the file without the corresponding client already on file.

For our demonstration, we entered some clients with names starting with T, including THORENSEN and THOMAS, as will be seen later.

INSTRUCTIONS:

1. Place the ENTER DATA disk in drive A and
Enter: PEARLED
2. Select the CALENDR form.
3. Select to ENTER DATA, Service 1.

The appointment calender form will be displayed, and initially you will be in the ADD mode. Enter a date and a time. After entering the time, the cursor will move ahead to the name area. The client we wish to enter is THORENSEN. We enter the first letter of the name. The form will look like the following:


```

===== APPOINTMENT CALENDAR =====
DATE 6/8/82  TIME  4.45 P M

WHO T_____

HOME _____ WORK _____

TIME SPENT _____
TIME RATE  _____
          _____
FEE        _____

MEMO _____

MEMO _____

===== ENTER DATA _ CONTROL KEY COMMANDS =====
U - Save/replace record  B - Switch ADD/EDIT
N - Duplicate last item  Z - Get next record
P - Print current record  W - Get previous record
I - Tab forward          O - Delete current record
Q - HELP                 ESC - EXIT

ADD

```

We press RETURN and PERSONAL PEARL will go to the client form for someone named "T", won't find anyone with that name, but will have positioned for access at the start of the T's in the client form file.

To indicate that no T client could be found, the data areas which were to be brought over from the client form are filled in with stars as shown below. The message RECORD NOT FOUND will also be displayed in the menu.

```

===== APPOINTMENT CALENDAR =====

DATE 6/8/82  TIME  4.45 P M

WHO T_____
*****
HOME *****WORK *****

TIME SPENT _____
TIME RATE  _____
          _____
FEE        _____

MEMO _____

MEMO _____

_____ ENTER DATA _ CONTROL KEY COMMANDS _____
U - Save/replace record   B - Switch ADD/EDIT
N - Duplicate last item   Z - Get next record
P - Print current record  W - Get previous record
I - Tab forward           O - Delete current record
Q - HELP                  ESC - EXIT
      ADD                  RECORD NOT FOUND

```

Now comes the interesting part. By entering a ctrl/Z, we can step forward in the client form to the next name after "T". This client form will send information to the CALENDAR form we are adding. We see below that the client THOMAS was sent over.


```
===== APPOINTMENT CALENDAR =====  
  
DATE 6/8/82  TIME  4.45 P M  
  
WHO THOMAS, O. EDWARD_____  
  CUSTOM HOME AND LANDSCAPE_____  
HOME 503/555-9821____WORK 503/555-4432_____  
  
TIME SPENT _____  
TIME RATE  _____  
          _____  
FEE       _____  
  
MEMO _____  
  
MEMO _____  
_____  
ENTER DATA _ CONTROL KEY COMMANDS _____  
U - Save/replace record   B - Switch ADD/EDIT  
N - Duplicate last item   Z - Get next record  
P - Print current record  W - Get previous record  
I - Tab forward           O - Delete current record  
Q - HELP                  ESC - EXIT  
      ADD
```

Note we are entering an appointment for THORENSEN, not THOMAS. Move the cursor back to the name area. Next enter another ctrl/Z (Z for next) and the next client after THOMAS will be displayed.

This process may be repeated to move ahead to the desired name, as shown below:

```

===== APPOINTMENT CALENDAR =====

DATE 6/8/82  TIME  4.45 P M

WHO THORENSEN, D. M. _____
  WORKSHOP/GARAGE ADDITION _____
HOME 509/555-6587 _____ WORK 509/555-2254 _____

TIME SPENT  _____
TIME RATE  _____
          _____
FEE        _____

MEMO _____

MEMO _____

_____ ENTER DATA _ CONTROL KEY COMMANDS _____
U - Save/replace record   B - Switch ADD/EDIT
N - Duplicate last item   Z - Get next record
P - Print current record  W - Get previous record
I - Tab forward           O - Delete current record
Q - HELP                  ESC - EXIT

      ADD

```

The ctrl/W command works just like the ctrl/Z except that you move backwards through the other form; in this case, in decending order by name. You should browse forward and backward through the client forms to get the feel. When you get to the first record or the last record and try to move one more step, PERSONAL PEARL will respond with an "RECORD NOT FOUND" message.

We can also jump from place to place in the client file by entering the first few letters of the name and again doing a ctrl/Z or ctrl/W. We can usually locate a client's name by entering just the first few letters.

Duplicating Data

Often when entering information into a form, the information for a particular area will be the same, or nearly the same, as the previous form entered or accessed. An example is the city and state areas in the client form. When entering data into an area which is the same as the previous form, type a ctrl/N to duplicate the information on the previous form. This can be useful even when the information is not exactly the same, as with zip codes, which usually have the same first 3 digits in a city. You can duplicate the previous entry and just retype the last two digits.

Printing Forms

Note the ctrl/P option on the menu. This option will print the form as displayed on the screen to the printer.

SECTION 8. PRODUCE LABELS

MAIN CONCEPT: GENERATING MULTI-UP FORM REPORTS

In this section, we will use the produce reports service to generate multi-column mailing labels. You can set the output to match almost any kind of label stock, as long as a single label is large enough to hold the form as designed.

INSTRUCTIONS:

1. Select the CLIENT program from the Form Directory.
2. Select Produce Reports, Service 2.
3. Select the LABELS report from the Report Directory.

The produce reports menu will be displayed as follows:

```
Optional Step 1: SELECTION VALUES
Optional Step 2: PRINTOUT DETAILS
Step 3: FINAL REPORT

_____ PRODUCE REPORTS _____
Form Name: CLIENT          Report Name: LABELS

ENTER A STEP NUMBER: 2

Press RETURN to continue, ? for HELP, or ESC to EXIT
```

We intend to produce a label for all the clients so we don't need to set any selection values. We will go directly to Step 2, Printout Details.

Select the PRINTOUT DETAILS option and the following menu will be displayed:

TITLE: _____

NUMBER OF REPORT LINES PER PAGE 4_

TOTAL LINES PER PAGE 8_
(0 = Use form feed)

FILE NAME FOR REPORT _____
(Blank = Printer, CON: = Console)

MULTIPLE FORMS ON ONE PAGE: (FIXED reports only)

NUMBER OF FORMS ACROSS: 2 SINGLE FORM WIDTH: 40
(Columns)

PRINTOUT DETAILS _____

Form Name: CLIENT Report Name: LABELS

You may make changes by typing a new value.

Press RETURN to continue, ? for HELP, or ESC to EXIT

The title is not used in generating labels so we leave it blank. The number of report lines is the number of lines which were defined on the report, in this case 4: one for the name, two for the address, and one more for city state and zip.

The number of lines per page is the number of lines from the top of one label to the top of the next label. In our case, the labels are 8 lines from top to top.

We have left the file name blank to indicate that output is to go to the printer.

The next two questions define the multi-up part of the process. We specify that the label stock is two labels wide, and that it is 40 print columns from the left edge of one label to the left edge of the next label.

When we finish entering the printout details the produce reports menu is displayed.

Go on to Final Report, Step 3.

Processing is automatic from here except for mounting the sort disk and remounting the produce reports disk, depending on your configuration. While the sort is in progress, the following message will be displayed:

PERSONAL PEARL SORT, Ver 1.00

After the sort is complete, you may be asked to mount the produce reports disk. The report is then loaded and printing begins.

SECTION 9. PRODUCE SCHEDULE REPORT

MAIN CONCEPTS: 1. SELECTION RANGES
2. CONSOLE OUTPUT

In this section, we will produce the appointment schedule report using the console for output and selecting a particular date range.

INSTRUCTIONS:

1. Select the CALENDR form from the Form Directory.
2. Select the Produce Reports, Service 2.
3. Select the SCHEDUL report from the Report Directory.

The produce reports menu will then be displayed as follows:

Optional Step 1: SELECTION VALUES

Optional Step 2: PRINTOUT DETAILS

Step 3: FINAL REPORT

PRODUCE REPORTS

Form Name : CALENDR

Report Name: SCHEDUL

ENTER A STEP NUMBER: 1

Press RETURN to continue, ? for HELP, or ESC to EXIT

Select Step 1 to set the selection values. A blank appointment calendar form will be displayed as follows.

```
===== APPOINTMENT CALENDAR =====  
  
DATE 6/1/82  TIME ____ _ M  
  
WHO _____  
_____  
  
HOME _____ WORK _____  
  
TIME SPENT _____  
TIME RATE _____  
_____  
FEE _____  
  
MEMO _____  
  
MEMO _____  
  
  
  
EDITS COMPLETE? (Y/N)  
ENTER LOW SELECTION VALUES
```

Note the message EDITS COMPLETE? (Y/N) appears after you have selected the desired values and pressed RETURN.

We have entered the date June first as the low date for the report and have set no other selection criteria. Note that we could set a time to get only morning appointments and so on.

After the low selection values are entered the form is cleared, and we are prompted for high selection values.


```
===== APPOINTMENT CALENDAR =====  
  
DATE 6/8/82  TIME ____ _ M  
  
WHO _____  
_____  
  
HOME _____ WORK _____  
  
TIME SPENT _____  
TIME RATE _____  
_____  
FEE _____  
  
MEMO _____  
  
MEMO _____  
  
  
  
EDITS COMPLETE (Y/N)  
ENTER HIGH SELECTION VALUES
```

We have entered June 8 as shown above. This completes the selection values for our report. The result is that only the appointments scheduled for the period June 1 to June 8 will appear on the report.

Upon exiting the selection menu, the produce reports menu returns and we will go on to Step 2, Printout Details. The printout details menu will be displayed as follows:

We show your responses in boldface.

TITLE: APPOINTMENT SCHEDULE FOR THE WEEK

NUMBER OF REPORT LINES PER PAGE 20_

TOTAL LINES PER PAGE 24_
(0 = Use form feed)

FILE NAME FOR REPORT CON:_____
(Blank = Printer, CON: = Console)

MULTIPLE FORMS ON ONE PAGE: (FIXED reports only)
NUMBER OF FORMS ACROSS: NA **SINGLE FORM WIDTH:** NA_
(Columns)

_____**PRINTOUT DETAILS**_____

Form Name: CALENDR **Report Name:** SCHEDUL

You may make changes by typing a new value.

Press RETURN to continue, ? for HELP, or ESC to EXIT

Note that in the printout details we have specified the console for output. The console here has 24 lines and we have elected to display the report on only 20 of the 24 lines. We did this to leave room at the bottom for PERSONAL PEARL to display messages like PRINTING and press return. When outputting the report to the console, PERSONAL PEARL will pause at the end of each page for a return.

Upon exiting from the printout details menu, the produce reports menu is displayed. Select Step 3 to produce the report.

PERSONAL PEARL will go out and sort the data file, displaying the following message:

PERSONAL PEARL SORT, Ver 1.00

When the sort is complete, the report will be displayed on the screen as follows. Note that the content of the report depends on the data you have entered. If you have not entered any data in the date range entered in the selection values menu, then none will appear on the report.

APPOINTMENT SCHEDULE FOR THE WEEK OF JUNE 1

===== APPOINTMENT CALENDAR =====

DATE	TIME	CLIENT	HOME	WORK
6/2/82	10.30	PO, GORDON C.	503/555-2264	503/555-7743
6/3/82	1.45	TORACELLI, F. C.	503/555-2216	503/444-2252
6/4/82	4.00	BAXTER, MORTON A.	503/555-3467	503/555-1141
6/5/82	3.00	PO, GORDON C.	503/555-2264	503/555-7749
6/5/82	9.00	BAXTER, MORTON A.	503/555-3467	503/555-1148
6/7/82	11.00	CARLBERG, MARGORIE C.	503/555-3387	503/555-8877
6/8/82	4.45	THORENSEN, D. M.	509/555-6587	509/555-2256

===== PAGE 1 =====

The title appears on line one. PERSONAL PEARL will pause after the first screen for a return before going on to the next screen of the report.

SECTION 10. PRODUCE INVOICES

MAIN CONCEPTS: SELECTION RANGE

In this section, we will produce invoice reports. This is another report which makes careful use of sorting and selection to yield the desired result. In our example, we sort the information into date order within name order. Then, when the report is produced, we select only the appointments which fall in the billing period. When the name changes as the report is produced, that is the signal for the subtotal to be printed. After printing the subtotal, the report goes to the top of the next page and prints the heading for the next invoice.

INSTRUCTIONS:

1. Select the CALENDR form from the Form Directory.
2. Select the Produce Reports, Service 2.
3. Select the INVOICE report from the Report Directory.

The produce reports menu will be displayed as follows:

```
Optional Step 1: SELECTION VALUES
Optional Step 2: PRINTOUT DETAILS
Step 3: FINAL REPORT

_____ PRODUCE REPORTS _____
Form Name: CALENDR      Report Name: INVOICE

ENTER A STEP NUMBER: 1

Press RETURN to continue, ? for HELP, or ESC to EXIT
```

We select option one, Selection Values, and the following menu is displayed:

```
===== APPOINTMENT CALENDAR =====  
  
DATE 6/1/82  TIME ____ _ M  
  
WHO _____  
_____  
  
HOME _____ WORK _____  
  
TIME SPENT _____  
TIME RATE _____  
_____  
FEE _____  
  
MEMO _____  
  
MEMO _____  
  
  
  
EDITS COMPLETE (Y/N)?  
ENTER LOW SELECTION VALUES
```

We have entered the first of June as the starting date for the report. Similarly we will set the ending date in the next screen to the last day of June, thus defining our billing period as the month of June.

These selection values will cause an invoice to be printed for every client who had an appointment during June. We could send invoices to only those clients who had billable appointments by setting the low selection range on "Fee" to one cent, for example. This would cause non-billable appointments to be omitted.

Upon exit from the selection values menu, the Produce Reports menu will be displayed. Select Step 2, Printout Details and the following menu will be displayed:


```

TITLE: _____

NUMBER OF REPORT LINES PER PAGE  55_

TOTAL LINES PER PAGE              0_
                                   (0 = Use form feed)

FILE NAME FOR REPORT  _____
                                   (Blank = Printer, CON: = Console)

MULTIPLE FORMS ON ONE PAGE:  (FIXED reports only)
NUMBER OF FORMS ACROSS: NA    SINGLE FORM WIDTH: NA_
                                   (Columns)

_____  
PRINTOUT DETAILS _____

Form Name: CALENDR              Report Name: INVOICE

You may make changes by typing a new value.

Press RETURN to continue, ? for HELP, or ESC to EXIT

```

We show your responses in boldface above.

The printout details shown above will print 55 lines per page and use the form feed to advance to the next page. No title is used.

Now we are ready to return to the Produce Reports menu and select the Final Report, Step 3. PERSONAL PEARL will sort the data and the report result will look something like this:

BAKER ENGINEERING SERVICE

INVOICE

DATE	MEMO	TIME	FEE
6/4/82	CONSULTATION WITH CONTRACTOR	1.00	25.00
6/5/82	CONTRACT SIGNING	0.50	12.50
TOTALS:		1.50	37.50
BAXTER, MORTON A.			
33 HOLLY CT			
PORTLAND			
OR 97332			

SECTION 11. UPDATING PRODUCTION DISKS WITH PROGRAM CHANGES

- MAIN CONCEPTS:
1. PROGRAM CHANGES
 2. FORM INSTALLATION
 3. REPORT INSTALLATION
 4. FILE MAINTENANCE
 5. INDEX CHANGES

In this section, we will make some changes to the client appointment program and apply them to a production disk which has already captured some live data. The information which is already on file is preserved and the new program revisions will apply to both the old data and to new data entered after the changes.

The change which we make is to add a "discount rate" data input area to the CLIENT form which is then used in the fee computation on the CALENDR form. Both forms will have one new data input area and the CALENDR form will also have a change to the computation for fee.

INSTRUCTIONS

1. Mount the form development disk.
2. Load the PEARLDF Design Forms program.
3. Select the CLIENT form from the Form Directory.

PROGRAM CHANGES

4. Select the Design Forms, Service 1.
5. Select Form Layout, Step 1.

At this point, we will lay out an additional data input area to the form labeled discount rate. Refer to the following layout report for the details on defining the data input area.

Return to the Design Forms menu.

6. Select Data Input Areas, Step 2.

Move the cursor to the new discount rate area and type ctrl/B. Using the details in the layout report, define the new data area.

Return to the Design Forms menu.

FORM INSTALLATION

7. Select Form Installation, Step 5.

When the form is installed, return to the Form Directory and select the CALENDR form.

8. Select the Design Forms, Service 1.

Perform Steps 1 and 2 of Design Forms to add the new data area DRATE, the discount rate we just added to the CLIENT form, to the CALENDR form.

Next, change the computation of FEE to use the new discount rate by changing the computation to:

$((100 - \text{DRATE}) / 100) * \text{SPENT} * \text{RATE}$

Return to the Design Forms menu.

9. Select Data From Other Forms, Step 4.

Move the cursor to the DRATE area and enter a ctrl/B. Next set the form for accessing DRATE to client. This area will not be used to find the other form, and will be brought over for display only.

Return to the Design Forms menu.

10. Install the modified CALENDR form.

REPORT INSTALLATION

11. Go to the Design Reports menu for each of the reports previously defined in the system and perform Step 5, Install Finished Report. Reinstall LABELS, SCHEDUL and INVOICE.

FILE MAINTENANCE

12. Load the file maintenance program, PEARLFM.

At this point, we begin the file maintenance operations necessary to update the production disk with the revisions to the development disk which we have made in the first 11 steps above.

When the file maintenance program has loaded, the Form Directory will be displayed. Select the client form and the file maintenance menu will be displayed.

To update an existing production disk with changes, we need to perform functions 5 and 6 on each program unit, in this case on both CLIENT and

CALENDR program units. We begin by doing 5, then 6 on the CLIENT program unit. Then, we go on to 5 and 6 on the CALENDR program unit.

1: FILE SUMMARY DATA	4: CREATE DATA FILES
2: REBUILD INDEX	5: TRANSFER FORM CHANGES
3: COMPACT DATA FILE	6: TRANSFER PROGRAM FILES

```
_____ FILE MAINTENANCE MENU _____  
Form Name: CLIENT  
  
ENTER A SERVICE NUMBER: 5  
  
Press RETURN to continue, ? for HELP, or ESC to EXIT
```

When we select option 5, the following prompts for disk mounting will appear:

PLACE DEVELOPMENT MASTER DISKETTE ON DRIVE- A
PLACE DISKETTE WITH DATA FILE TO BE UPDATED ON DRIVE- B

PRESS RETURN TO CONTINUE, OR ESCAPE TO EXIT

USER: Mount development disk on A and
Mount the production disk on B, then
Press RETURN

When the process is complete, we are prompted to remount the File Maintenance disk on drive A as follows:

Place FILE MAINTENANCE DISKETTE on drive: A
Press RETURN to continue

When the disk has been mounted, the file maintenance program will be loaded and the maintenance menu will be displayed. Select option 6 to transfer program files.

We are then given the following series of prompts to mount disks:

CREATE/UPDATE PROGRAM DISK FOR CLIENT

OUTPUT (PROGRAM) DISK DRIVE IS B
INPUT (DEVELOPMENT) DISK DRIVE IS A
OK TO CONTINUE (Y/N) Y

PLACE CLIENT DEVELOPMENT DISKETTE ON DRIVE: A
PRESS RETURN TO CONTINUE, OR ESCAPE TO TERMINATE

USER: Mount development disk on A and
Press RETURN

COPYING PROGRAM FILES FROM DRIVE A TO DRIVE B

PLACE DISKETTE TO COPY PROGRAM FILES TO ON DRIVE: B
PRESS RETURN TO CONTINUE, OR ESCAPE TO TERMINATE

USER: Mount production disk on B and
Press RETURN

While the program files are being transferred, the following messages will be displayed:

COPYING: A:CLIENT.DIR
COPYING: A:CLIENT.L00
COPYING: A:LABELS.M00

COPY PROCESSING COMPLETED, PRESS RETURN TO CONTINUE

When the process is complete, we are prompted to remount the File Maintenance disk as follows:

Place FILE MAINTENANCE DISKETTE on drive: A
Press RETURN to continue

At this point, we have completed the updates for the CLIENT program unit. We then repeat the process for the CALENDR program unit. Escape from the maintenance menu to return to the Form Directory. Select the CALENDR form. The maintenance menu will be displayed. Perform function 5, then function 6.

When these operations are complete, the production disk will have the changes we made to the development disk.

INDEX CHANGES

The changes we made in steps 1 through 11 do not affect the index for either program unit. However, if we had added a data input area which was defined as an index, or redefined an existing data input area as an index, or deleted an index, one more file maintenance process would have been required.

When updating a production disk with any changes involving an index, it is necessary to perform File Maintenance function 2 to rebuild the index. This option would be performed last, after all the other operations were complete for both the CLIENT and CALENDR program units.

The layout reports which follow detail the changes to the forms which were made during this section.

FORM LAYOUT (PAGE 1) FOR CLIENT

===== CLIENT INFORMATION FORM =====

NAME _____1

ADDRESS _____2

ADDRESS _____3

CITY _____4 STATE _5 ZIP ____6

WORK PHONE _____7 HOME PHONE _____8

PROJECT _____9

DISCOUNT RATE ____10 %

INPUT AREA ATTRIBUTES:

1 DATA AREA NAME: NAME
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890123

1 2 3 4

REQUIRED DATA
DATA AREA IS UNIQUE INDEX

2 DATA AREA NAME: AD1
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890

1 2 3 4

3 DATA AREA NAME: AD2
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890

1 2 3 4

4 DATA AREA NAME: CITY
DATA AREA TYPE: CHARACTER

123456789012345678901234

1 2

5 DATA AREA NAME: STATE
DATA AREA TYPE: CHARACTER

12

6 DATA AREA NAME: ZIP
DATA AREA TYPE: NUMBER

99999
12345

7 DATA AREA NAME: WKPHONE
DATA AREA TYPE: CHARACTER

123456789012

1

8 DATA AREA NAME: HMPHONE
DATA AREA TYPE: CHARACTER

1234567890123

1

9 DATA AREA NAME: PROJECT
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890
1 2 3 4

10 DATA AREA NAME: DRATE
DATA AREA TYPE: NUMBER

99.99
12345

REQUIRED DATA

FORM LAYOUT (PAGE 1) FOR CALENDR

===== APPOINTMENT CALENDAR =====

DATE ____1 TIME ____2 3 M

WHO _____4

_____5

HOME _____6 WORK _____7

TIME SPENT ____8

TIME RATE ____9 DISCOUNT RATE ____10 %

FEE ____11

MEMO _____12

MEMO _____13

INPUT AREA ATTRIBUTES:

1 DATA AREA NAME: ADATE

DATA AREA TYPE: DATE

MM/DD/YY

12345678

REQUIRED DATA

DATA AREA IS NON UNIQUE INDEX

2 DATA AREA NAME: ATIME
DATA AREA TYPE: NUMBER
99.99
12345
REQUIRED DATA

3 DATA AREA NAME: AMPM
DATA AREA TYPE: CHARACTER
-
1
REQUIRED DATA

4 DATA AREA NAME: NAME
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890
1 2 3 4 5

REQUIRED DATA
DATA AREA IS NON UNIQUE INDEX
FORM: <CLIENT> ACCESS KEY

5 DATA AREA NAME: PROJECT
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890
1 2 3 4 5

FORM: <CLIENT> DISPLAY ONLY

6 DATA AREA NAME: HMPHONE
DATA AREA TYPE: CHARACTER

1234567890123456
1

FORM: <CLIENT> DISPLAY ONLY

7 DATA AREA NAME: WKPHONE
DATA AREA TYPE: CHARACTER

1234567890123456789
1

FORM: <CLIENT> DISPLAY ONLY

8 DATA AREA NAME: SPENT
DATA AREA TYPE: NUMBER
9999.99
1234567

9 DATA AREA NAME: RATE
DATA AREA TYPE: NUMBER
9999.99
1234567

10 DATA AREA NAME: DRATE
DATA AREA TYPE: NUMBER
99.99
12345
FORM: <CLIENT> DISPLAY ONLY

11 DATA AREA NAME: FEE
DATA AREA TYPE: NUMBER
9999.99
1234567
COMPUTATION: ((100-DRATE)/100)*SPENT*RATE

12 DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890
1 2 3 4 5

13 DATA AREA NAME: AMEMO2
DATA AREA TYPE: CHARACTER

1234567890123456789012345678901234567890
1 2 3 4 5

Chapter 2

Glossary

CONCEPTS AS TOOLS

CONTACT KEY	(PATH KEY) This key is the link between the sending form and the receiving form. It is created when a "Y" response is given to the query "DOES DATA IN THIS AREA IDENTIFY RECORDS FROM ANOTHER FORM?" This query appears on both DESIGN FORMS and DESIGN REPORTS, in Optional Step 4 in both cases.
EXTERNAL FORM	This form must be a data entry form and not a report. This is also referred to as a "sending" form.
INDEX	This term is used to describe a DATA AREA that will be used as a reference for a form. PERSONAL PEARL requires that at least one INDEXED DATA AREA be defined for a FORM. If you do not define an INDEXED AREA for the FORM you are creating, then PERSONAL PEARL will automatically assign the first DATA AREA on your form as an INDEX. An analogy would be the title of a book and the book itself. The title of the book is the index to the book when you go to the library and look up the name of the book in the TITLE INDEX system.
LAYOUT REPORTS	Layout reports are reports printed out from your screen for purposes of design review and proofing. These reports are obtained using the ctrl/P function for output to printer. They are an integral part of understanding the design process and are necessary to understand the advanced tutorial. A full description of how they are created and what they contain are included in Chapter 4, Design Aids, Reference Manual.

PATH	A term used to associate two or more forms as transferring information. Information is transferred in one direction, that is, you can have one form send information (an external form), and another form receive information (a receiving form).
PATH DATA AREA	These are data areas that are used to transfer data from one form to another. A receiving form must have at least one data area defined with the name of the sending form (see DATA FROM OTHER FORMS). Path data areas must have the following qualities:
PATH INDEX	This is a indexed data area. An indexed data area is required to link a sending form record with a receiving form record. A receiving form must have only one indexed data area (path index) for each sending form it uses. The sending form must have the same path index.
PATH NAME	This is a data area name. Data that is to be sent from one data area on a sending form to another data area on a receiving form must have the same path names.
RECEIVING FORM	This form may be a data entry form or a report. This form must be installed after the sending form has been installed.
REPORT TYPE	Reports are available from PERSONAL PEARL in three types, according to user choice. FIXED-type reports provide a form on each separate page. LIST-type reports summarize data from the input forms into one report. Spreadsheet-type reports allow report information to interface with SuperCalc Version 1.07 or later.
SENDING FORM	Also known as the "external" form or the "other" form.
SELECTION VALUES	This term refers to the capability to specify a range (a defined limit) for data you want to print out. High and Low values may be specified, allowing values between and including these limits to be printed.
SORT PRIORITY	Before information is printed out in a report, you may sort the information in your files if you wish. Sort priorities may be set for a maximum of five items. Sorts may be requested in ascending or descending order.

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